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
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Eurosurveillance, Volume 10, Issue 32, 11 August 2005

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Modelling study suggests pandemic influenza could be controlled at source

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The highly pathogenic avian influenza A (H5N1) virus which is causing influenza outbreaks in South East Asia represents the most plausible candidate for a pandemic human influenza strain since the last influenza pandemic in 1968 [1]. Initial reports of outbreaks in poultry in the region were received in 2003. These were soon followed by sporadic reports of human infection. As yet there have been no confirmed reports of sustained human to human transmission that would signal evolution towards a pandemic.

A keynote paper from a group modelling the course of an influenza pandemic and the impact of control measures has recently been published. The study predicts that, given enough antiviral medication, local cooperation, operational efficiency in implementing measures and a rapid response, a pandemic could be controlled at a potential source in rural South East Asia.

In this issue

- ▶ E-alert 9 August: Over 2000 cases so far in Salmonella Hadar outbreak in Spain associated with consumption of pre-cooked chicken, July-August, 2005
- ▶ Highly pathogenic avian influenza reported in Russian bird populations
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In the study, it was assumed that an infected individual would spread the virus to 1.8 other people ($R_0 = 1.8$) [2]. The impact of a combination of geographically targeted treatment and prophylaxis was modelled (it was assumed that 90% of cases are detected and treated and 90% of persons within a 5 km radius of the pandemic source are prophylaxed). This would require 2-3 million courses of antiviral drugs, as well as social-distancing (such as closing schools and workplaces) and quarantine measures.

The World Health Organization (WHO) currently has a stockpile of approximately 120 000 antiviral treatment courses resulting from a charitable donation. This study suggests that a significantly larger stockpile is likely to be needed along with considerable liaison and planning between the WHO and the national and local governments likely to be affected.

References:

1. World Health Organization Communicable Disease Surveillance and Response. *Avian Influenza: assessing the pandemic threat*. WHO/CDS/2005.29. Geneva: WHO; January 2005. (http://www.who.int/csr/disease/influenza/WHO_CDS_2005_29/en/index.html)
2. Ferguson NM, Cummings DA, Cauchemez S, Fraser C, Riley S, Meeyai A, et al. Strategies for containing an emerging influenza pandemic in Southeast Asia. *Nature* 2005 Aug 3; [Epub ahead of print].

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